

NAVAL WAR COLLEGE
Newport, R.I.

THE INTEGRATION OF CIVIL RELIEF AGENCIES INTO NETWORK CENTRIC WARFARE

by

Debra M. Livingood
Commander, USN

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: _____

13 May 2002

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): THE INTEGRATION OF CIVIL RELIEF AGENCIES INTO NETWORK CENTRIC WARFARE (UNCLASSIFIED)			
9. Personal Authors: Commander Debra M. Livingood, USN			
10. Type of Report: FINAL		11. Date of Report: 13 MAY 2002	
12. Page Count: 22		12A Paper Advisor (if any): Commander Erik Dahl, USN	
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: NCW, Civil Relief Agencies, Common Operating Picture, MOOTW, Information grid, Informational superiority			
15. Abstract: The U.S. military is currently in the process of undergoing a visionary transformation of its forces using technological advances with the goal of maintaining global superiority into and beyond the 21 st century. The single most important technological advancement that will transform the military and allow it to attain full spectrum dominance will be the capability to effectively capture and integrate the vast amount of information on individual networks into a Common Operating Picture (COP). The military's vision is to accomplish this with Network Centric Warfare (NCW) through the integration of informational grids. The military, though, continues to maintain its focus narrowly on information obtained by military sources only and is neglecting to include another significant information source: civil relief agencies. In order to achieve true information superiority the information from thousands of civil relief agencies needs to be integrated into the COP. Over the past decade the U.S. military has been heavily involved with Military Operations Other Than War (MOOTW) which, by its nature, includes interaction with numerous civil relief agencies. Throughout all of these operations, the critical importance of efficiently sharing information between the military and these agencies has been proven over and over again. This is especially true in MOOTW, but as Operation Enduring Freedom has shown, it is also important in war. Therefore, to neglect developing methods to integrate the civil relief agencies' vital information into the COP could prove to be disastrous.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			

18.Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT	
19.Telephone: 841-3556	20.Office Symbol: C

Security Classification of This Page Unclassified

ABSTRACT

The U.S. military is currently in the process of undergoing a visionary transformation of its forces using technological advances with the goal of maintaining global superiority into and beyond the 21st century. The single most important technological advancement that will transform the military and allow it to attain full spectrum dominance will be the capability to effectively capture and integrate the vast amount of information on individual networks into a Common Operating Picture (COP).

The military's vision is to accomplish this with Network Centric Warfare (NCW) through the integration of informational grids. The military, though, continues to maintain its focus narrowly on information obtained by

military sources only and is neglecting to include another significant information source: civil relief agencies. In order to achieve true information superiority the information from thousands of civil relief agencies needs to be integrated into the COP. Over the past decade the U.S. military has been heavily involved with Military Operations Other Than

War (MOOTW) which, by its nature, includes interaction with numerous civil

relief agencies. Throughout all of these operations, the critical importance of efficiently sharing information between the military and these agencies has been proven over and over again. This is especially true in MOOTW, but as Operation Enduring Freedom has shown, it is also important in war. Therefore, to neglect developing methods to integrate the civil relief agencies' vital information into the COP could prove to be

disastrous.

Introduction

The U.S. military is currently in the process of undergoing a visionary transformation of its forces using technological advances with the goal of maintaining global superiority into and beyond the 21st century. The guiding vision, described in Joint Vision 2020, states that the overarching focus is "*full spectrum dominance* achieved through the interdependent application of dominant maneuver, precision engagement, focused logistics, and full dimensional protection." It goes on to say that the evolution of these elements will be strongly influenced by the continued development and proliferation of information technologies that will substantially change the conduct of military operations. "*It is from these changes in the information environment that will make information superiority a key enabler of the transformation of the operational capabilities of the joint force.*"

The single most important technological advancement that will transform the military and allow it to attain full spectrum dominance will be the capability to effectively capture and integrate the vast amount of information on individual networks into a Common Operating Picture (COP). The military's vision is to accomplish this with Network Centric Warfare (NCW) through the integration of three informational grids: sensor, engagement or shooter, and command and control.¹ Although the end state of where NCW will lead the military is still

under much debate, there is little question that the intrinsic value of networking and a COP is crucial to the success of this transformation.

One concern, though, is that the military continues to maintain its focus narrowly on only those three grids, which include only military sources and information; it is neglecting to include another significant information source. In order to achieve true information superiority the information from thousands of civil relief agencies needs to be integrated into the COP. Over the past decade the U.S. military has been heavily involved with Military Operations Other Than War (MOOTW) which, by its nature, includes interaction with numerous civil relief agencies. Throughout all of these operations, the critical importance of efficiently sharing information between the military and these agencies has been proven over and over again. This is especially true in MOOTW, but as Operation Enduring Freedom has shown, it is also important in war. Therefore, not developing methods to integrate these vital information sources into the COP could prove to be disastrous.

This paper will show that civil relief agencies possess critical operational information that needs to be integrated into the military's network centric operations. It will first take a look at NCW, then discuss the benefits obtained from information sharing with civil relief agencies. Next it will examine Civil-Military integration and some efforts already taken to integrate the Civil Military Operation Center (CMOC) it into a network and then discuss ways to overcome obstacles to integration. Finally, it will close by drawing some conclusions. For the purpose of this paper, civil relief agencies will include relief agencies from the U.S. Government, United Nations, International Red Cross, and Non-Governmental Organizations and Private Volunteer Organizations (NGOs/PVOs).

Network Centric Operations

The military's efforts to integrate vast amounts of information center on the concept of Network Centric Warfare (NCW). The general concepts of NCW are typically linked with advanced command and control,

information technology and superiority, and computer networking through the integration of three grids: sensor; engagement or shooter; and command and control or information. These grids gain their power by integrating a multitude of informational sources, called nodes, into a single system, which is then sorted and presented into a logically organized and accurate display.² The significant point here is that the more information that is entered and integrated into the system, the more complete the COP becomes for the Joint Force Commander (JFC). Ideally this would provide optimum battlespace awareness, which would in turn facilitate the Commander's ability to make well informed, time critical decisions. This system does not only benefit the JFC, but it is critical to all decision makers at every level of war including the tactical, operational and strategic levels. Every decision maker is looking for a COP with the most up to date, accurate information available in order efficiently utilize forces, determine where to maneuver forces, support logistical requirements, etc. Although the military has to this point been focused on the strict warfighting advantages that Network Centric Warfare provides, NCW can also be utilized for purposes other than war. "While it is true that our collection systems are not currently designed for OOTW, this does not negate the promise that NCW has for improving upon our current approaches to these kinds of operations. Thus, rather than saying that NCW is not applicable to OOTW, it would be more accurate to say that we could not hope to fully realize the promise of NCW without proper attention to the collection and analysis of appropriate information." ³

Benefits of information sharing with civil relief agencies

The U.S. military's involvement in MOOTW over the last decade has ranged from strictly humanitarian relief operations to complex military interventions. Throughout all of these evolutions, the need to understand and optimize civil-military interactions has proven to be an important aspect in operations which benefit both the military and the civilian relief agencies.

Civil relief agencies have significant amounts of information that is useful to the Joint Force Commander (JFC). They can provide valuable information to the military about sanitation conditions, water supplies, and linguistic resources, and can be extremely knowledgeable on cultural considerations, that if not taken into account could have an adverse effect on operations. They can also provide information that will give the JFC insight on things like numbers and locations of refugees, transportation and logistical requirements and requests, locations of civil relief agency personnel, and goals and missions of each of the relief organizations. Having this information will allow the JFC to more efficiently synchronize and prioritize efforts. It will also facilitate an accurate assessment of the situation, which in turn will decrease the decision process time and will ultimately solidify a unity of effort between the military and the civil relief agencies.⁴

Not only is the civil relief agencies' information useful during an operation, but it can also be crucial prior to any military involvement.

It is extremely important to know what is going on in an area before committing military forces. Since the civil relief agencies are often in a country before the military gets there, they will have already collected and collated various useful data. Additionally, they have begun making beneficial contacts and established working relationships

with both the civilian population and amongst the other relief agencies.⁵ This is important because it may facilitate their field agent's access into areas that the military may not have direct access to enter in order to gather further information. By tapping into this information before an operation, our planners would have access to background research that has already been consolidated and analyzed which would speed up and improve our operational planning phase.

Lastly, civil relief agencies are collecting information on a regular basis on various areas throughout the world which are consolidated and integrated into various networks which can be accessed through the Internet (see appendix A). Joint Pub 3-08 states that "the geographic combatant commander and combatant command staff should be continuously engaged in interagency coordination and establishing working relationships with interagency players long before crisis action planning is required." The information collected on these websites could be very valuable on a strategic level. If this information was fully integrated into our network, it would make it easier to figure out and keep track of problem areas, which in turn could allow us to possibly resolve their problems through diplomatic or economic channels before the military even needed to be involved.

The military on the other hand can provide valuable information to the civil relief agencies such as a description of the Commander's intent, location of unexploded ordnance, integrity of roads and bridges, best locations for radio repeaters, etc.⁶ Civil relief agencies sometimes have unrealistic expectations of what the military can provide;⁷ but if they understand the Commander's intent, they will be able to better determine how much the military can be involved and to what extent, which may ultimately stop unrealistic expectations of the

military from the start. Additionally, because the military usually provides, to some extent, security and lift capability, the civil relief agencies could have access to the availability of military security assets and logistical movement of resources which could help in their planning efforts and ultimately may save lives.

Civil-Military integration

Joint Pub 3-57 describes the Civil Military Operation Center (CMOC) as "An ad hoc organization, normally established by the geographic combatant commander or subordinate joint force commander, to assist in the coordination of activities of engaged military forces, and other United States Government agencies, nongovernmental organizations, private voluntary organizations, and regional and international organizations." "CMOCs have been in existence for years to help coordinate civil agency efforts to restore order after war, however they have evolved through the 90's to become the focal point of military operations in humanitarian efforts."⁸

A review of various operations the military has been involved with over the last decade shows that a common concern continues to persist throughout each operation. The major problem is that neither the military or civil relief agencies possess the ability to *efficiently* collect, analyze and disseminate information required for such operations.⁹ The research also shows that the CMOC has progressed from being just a meeting place into being an organization which includes military doctrine on how to efficiently employ it, but it has never been fully integrated into the military's networked system. The CMOC is the logical place to accomplish this integration because it is currently the

place where the civil relief agencies and the military already interact and share information.

A real world attempt to bring the CMOC into a networked system occurred in 1998 in Kosovo in which the first step in integrating information through computers at a CMOC occurred. Geographic Information System (GIS), a commercial software package that integrates current information and maps and assists with information sharing, advance planning, operational cooperation and evaluation of progress towards complementary goals was used. This system was deployed as a prototype where the Office of Foreign Disaster Assistance (OFDA), U.S. Agency for International Development (USAID), and National Imagery and Mapping Agency (NIMA) added information to update locations of buildings, roads, place names, etc. Additionally, The United Nations High Commissioner for Refugees (UNHCR) and the Kosovo Verification Mission (KVM) used GIS to report land mines, booby traps, checkpoints and survey housing damage and location of internally displaced persons.

NGOs, UNHCR and Kosovo Force (KFOR) used a command rapid village assessment form that was used to gather information on damage assessment, all of which was later consolidated in the Humanitarian Community Information Center (synonymous with the CMOC described earlier) whose information was shared by both military and civil relief agencies.¹⁰

Although the past attempts at trying to integrate the CMOC have had some success, it has only been a start; it is not nearly comprehensive enough. Research into this integration continues today through the United States Institute of Peace's (USIP) Virtual Diplomacy Initiative at the USIP Civil Affairs Conferences. These conferences, conducted in 2000 and 2001, have involved personnel from multi-national military

civil affairs units, officials from the U.S. State Department and USAID, and staffs from UN humanitarian relief agencies and NGOs. During the 2001 conference, they determined that a common framework for sharing information would be beneficial. One of the ways they proposed doing this was by using an information-sharing center that collected information using geo-referencing which would indicate specific locations where the data were collected, the date of collection, and the identity of the source from which the information was collected in order to evaluate its credibility. The conference report states "a virtual information-sharing center would allow users access to needed information, regardless of time and schedules. This enhances information sharing because it responds to the criticism that the traditional form of sharing information-coordination meetings - often takes precious time and offers limited benefits."¹¹

Although research continues to be conducted in this area, the integration is still being looked at in a piecemeal fashion. What needs to occur is that the CMOC, which is already consolidating much of the civil relief agencies' information together, needs to be incorporated directly into the NCW information grid.

Overcoming obstacles

Integrating civil relief agencies into network centric operations presents many inherent problems that will need to be overcome in order to efficiently use all of the available information. Two of these areas, from the military's perspective, are the *validation* and *security* of information.¹² Inaccurate information, which is not validated, can have serious implications for the military, especially if decisions are being made to use force to accomplish a particular mission. For example, if inaccurate information was provided on the location of

refugees, it could prove disastrous, both for humanitarian reasons and politically, if the military targeted an area where these refugees lived, causing large casualties. Incorporating inaccurate information is an unacceptable risk that needs to be either mitigated to acceptable risk levels or completely resolved. In the area of securing classified information, the military has a variety of things that can not be disclosed to many of the civil relief agencies. This can include intelligence collection sources, sensitive troop movements, weapons capabilities, etc. Because the information derived from these sources can be extremely valuable to the civil relief agencies involved, a method needs to be developed that can sanitize information, allowing it to be distributed without worry of compromising classified information.

With today's technological advances, these obstacles can be overcome or at least mitigated to an acceptable risk. The technology currently exists to sort vast amounts of information based upon given output filtering parameters and access firewalls that can be determined in advance by the military but at the same time, allow the vital information that needs to be accessed through. The system being used can also be programmed to have different access levels in order to allow the JFC flexibility in determining what degree of access each civil relief agency will be assigned.¹³ What level each will be assigned is something that should be discussed prior to the start of the operation if possible, so that each user will understand what type of information they can expect to receive. This is not to say that the level can not be upgraded, or downgraded during operation, but it gives all involved a starting point for planning purposes. To mitigate the concern of information validation, it is possible to set up access protocols to the system that allows only agreed upon sources to enter information. It

may also be possible to assign a credibility rating to inputted information based on a variety of factors including the source's past credibility history, collaborating information, time of event, etc. so that when personnel are trying to determine whether or not to use the information it can be rated as far as validity on some predetermined scale.

On the opposite side of the spectrum, some civil relief agencies, especially NGOs, do not want to be perceived as being intelligence sources to the military. If passing information to the military promotes a perception of being biased towards one particular side, their reputation for impartiality and neutrality may come into question which may cause their access to be blocked into certain areas that are controlled by combatant forces.¹⁴ This is a concern because the loss of access can deny help to people that may desperately need their services. This is not something that technology can directly overcome, but the advantages that will be gained by these sources having access to the merged information may outweigh their concern. Another possibility is that the information may be able to be inputted via a third impartial party, which would screen the identity of the real source.¹⁵ In the long run though, the military may just have to accept the fact that some information may not be able to be incorporated into the network.

Probably one of the more ingrained obstacles that needs to be overcome is the military's and civil relief agencies' inherent distrust of each other.¹⁶ This is also something technology can not easily solve. The only way to overcome this obstacle is through continued collaboration and training amongst the military and the various civil relief agencies. Additionally, if an honest attempt is made to jointly develop an integrated system it could prove the advantages and the power

of the network which in turn would foster better cooperation and trust.

Integration will, in addition, illustrate the limits of information sharing, such that they are detailed prior to relief operations so that false expectations do not develop.

Another complicating factor is the sheer number of civil relief agencies that can be involved in humanitarian relief. Many of these agencies and organizations can be very specialized in the services they provide, and because every humanitarian operation is complex it can bring a multitude of different civilian players. In order to understand how to integrate the civil relief agencies into the military network, a look needs to be taken at the key civil relief agency players involved.

In order to get a handle on the types of civil relief agencies, it may be useful for the JFC to think of these agencies into four distinct groups: U.S. government, United Nations, International Red Cross, and Non-Governmental Organizations and Private Volunteer Organizations (NGO/PVO). The first three have a long history and practice of working with the military and usually are very cooperative, but the NGOs/PVOs may or may not have much experience when dealing with the military and may display varying degrees of cooperation. One of the most important things for the military to do is obtain a comprehensive understanding of all the civil relief agencies in order to facilitate collaboration.¹⁷ The list below is not exhaustive, but tries to cover some of the more prominent players.¹⁸

A. U.S. Government

- U.S. Agency for International Development (USAID) is a civilian department of the U.S. government that works to support long-term and equitable economic growth and advancing U.S. foreign policy objectives by supporting economic growth, agriculture and trade, global

health and democracy and conflict prevention and humanitarian assistance. Through its Office of Foreign Disaster Assistance (OFDA), it provides emergency relief and humanitarian assistance. OFDA sends out Disaster Assistance Response Teams (DART) to crisis areas. These teams are experienced and well known to the Non-Governmental Organizations (NGO) community and come well organized with their own global communications.

B. United Nations

- The United Nations has numerous agencies that participate in humanitarian affairs. Some of the major players are the Office for the Coordination of Humanitarian Affairs (OCHA), which works to coordinate the disaster and humanitarian relief efforts of the international community; the United Nations High Commissioner for Refugees (UNHCR), which works on behalf of refugees to provide protection and assistance; World Food Programme (WFP), which is the world's largest provider of food aid; World Health Organization (WHO), which gives guidance on health matters; Food and Agricultural Organization (FAO), which helps promote agricultural development; United Nations Children's Fund (UNICEF), which promotes children's rights and well being; and United Nations Development Program (UNDP), which programs for sustainable development and technical assistance.

C. International Red Cross

- The many organizations that make up the Red Cross and Red Crescent Movement are private organizations independent of all international organizations and governments, yet it has official status through treaty, agreement, and usage. This includes the International Committee of the Red Cross (ICRC). The ICRC is separate from the UN agencies and the NGOs. It receives funding from many governmental

agencies (U.S. and non-U.S.) and has an international mandate to promote compliance with humanitarian law and help victims in conflict.

D. NGO/PVO

- NGOs are voluntary non-profit associations independent of government control whose goal is to promote human rights and provide humanitarian assistance to those in need. These organizations are often religious, environmental, or medical in nature. Conservatively there are over 26,000 NGOs that operate internationally. Private Volunteer Organizations (PVO) are basically the same as NGOs except that they are normally based out of the United States.¹⁹

As shown above, the number of players and varying types of agencies that can be involved in a conflict area can be vast. Because of this, there will be large amounts of information that is being intentionally and unintentionally collected by these agencies. Because different agencies are conducting different missions in diverse places, they have vastly different types and quantities of information. It is particularly challenging to the coordinating agencies to collect and utilize all the information that is available in a timely, coordinated manner. With each agency having different agendas and goals this information might not be shared with other agencies, not necessarily due to privacy issues, but possibly due to being unaware that the information is needed elsewhere. Additionally, they may not possess the means to transmit the information to the areas and agencies that may need it. Without merging this data somehow, there lies a distinct possibility that there will be a redundancy of efforts, inefficient tasking of resources, and wasted time. Provided the resources, the U.S. military would be ideal in assigning communications assets and coordinating the interagency efforts for information flow to the CMOC.²⁰

Conclusions

In conclusion, the military is going through a comprehensive transformation of its forces. NCW, whether one is a supporter or not, is the way of the future and it will involve the networking of networks to provide a COP. If history holds true, civil relief agencies will be integrally involved in military operations of the future.

In order to facilitate this transformation, the military needs to participate in relief agency information sharing conferences and coordinate with agencies like the United States Institute of Peace's Virtual Diplomacy Initiative. The parallel information and integration strategies of the U.S. military and those of the humanitarian relief networks provide an opportunity to develop a common data base that can be integrated economically and easily into a usable system. As the military moves forward with the development of NCW it needs to work with the civil relief agencies in order to create a system that is compatible to both. In the event that a CMOC node is established, it can be easily integrated so that the commander can capitalize on the information already collected by the agencies in country, as well as facilitate an information sharing atmosphere that makes valuable military collected information available to the civil relief agencies. This system will need to have the capability to allow the military to filter or screen sensitive data into a form that can be releasable to civilians in addition to a methodology established to assign validation values to information entered into the grid by authorized users. The COP needs to be presented to the authorized users in formats appropriate for the user's security level and needs.

There have historically been interoperability problems with the military working with humanitarian agencies; there has also historically

been a problem with military services working in a joint environment. After dealing with parochialism, communication and interoperability problems, the military is seeing that each service can no longer go it alone. The civil relief agencies and military are well discovering that working together has also become essential. The effectiveness and efficiency of the military machine and the humanitarian relief agencies are seriously degraded when operating in an informational vacuum. As information technology continues to improve and advance, the natural state of progression, a progression already moving forward, will be to collectively integrate all sources of information into timely accurate representations that will save lives. Political agendas cannot be furthered by war without attending to the inevitable human tragedies, but leveraging technology may hopefully lessen them.

Notes

¹Arthur K. Cebrowski and John J. Garstka, "Network Centric Warfare: It's Origin and Future," *Proceedings*, January 1998, <<http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>> (25 March 2002); Erik J. Dahl, "Network Centric Warfare and the Death of Operational Art," Unpublished Paper, Naval War College, Newport, Rhode Island, n.d..

²Ibid.

³David S. Alberts, John J. Garstka, and Frederick P. Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2nd ed (Washington, DC: C4ISR Cooperative Research Program, 1999), 8.

⁴Daniel Byman and others, *Strengthening the Partnership* (Santa Monica, CA: Rand, 2000), 73; "Taking it to the Next Level: Civilian-Military Cooperation in Complex Emergencies," United States Institute of Peace, 31 August 2000, <<http://www.usip.org/vdi/vdr/nextlevel.html>> (18 April 2002).

⁵Mark G. Dearfield, "The CJTF and NGOs-One Team, One Mission?" Unpublished Research Paper, Naval War College, Newport, Rhode Island, May 1998; Byman, 78.

⁶"Good Practices: Information Sharing in Complex Emergencies," United States Institute of Peace, 5 March 2002, <<http://www.usip.org/vdi/vdr/11/html>> (18 April 2002).

⁷ Byman, 146.

⁸George F. Oliver III, "Who Are These Guys? Non-Governmental Organizations in Humanitarian Relief Operations," Unpublished Research Paper, Naval War College, Newport, Rhode Island, May 1996.

⁹Clinton S. Bolton J, "Military Operations Other Than War: The Civil Military Operations Center in Operation Support Democracy," Unpublished Research Paper, Naval War College, Newport, Rhode Island, March 1997; Center for Naval Analyses, *Military Relations With Humanitarian Relief Organizations: Observations From Restore Hope, October 1993*, by Jonathan T. Dworken, 23 November 1994, DTIC, AD-A286 510; John W Cowan, "Operation Provide Comfort: Operational Analysis for Operations Other Than War," Unpublished Research Paper, Naval War College, Newport, Rhode Island, June

1995; Jonathan T. Dworken, "Restore Hope: Coordinating Relief Operation," *Joint Force Quarterly* 8 (Summer 1995): 19; Michael Elmquist, "CIMIC in East Timor," UN Office for the Coordination of Humanitarian Affairs, 1 December 1999, <http://reliefweb.int/ocha_ol/programs/response/mcdunet/0esttimo.html> (20 April 2002); Robert E. Sorenson, "Operational Leadership Challenges in Emergency Humanitarian Assistance Operations," Unpublished Research Paper, Naval War College, Newport, Rhode Island, June 1997.

¹⁰Michael J. Dziedzic, and William B. Wood, "Kosovo Brief: Information Management Offers a New Opportunity for Cooperation between Civilian and Military Entities," United States Institute of Peace, 9 August 2000, <<http://www.usip.org/vdi/vdr/dziedzic-wood.html>> (18 April 2002).

¹¹"Good Practices: Information Sharing in Complex Emergencies,".

¹²*Ibid.*; "Taking it to the Next Level: Civilian-Military Cooperation in Complex Emergencies,".

¹³ Dziedzic.

¹⁴ Byman, 110.

¹⁵"Good Practices: Information Sharing in Complex Emergencies,".

¹⁶Oliver.

¹⁷ Byman, 143.

¹⁸ Byman, 59-68.

¹⁹ *Ibid.*, 64.

²⁰"Taking it to the Next Level: Civilian-Military Cooperation in Complex Emergencies,".

²¹Michael M. Smith and Melinda Hofstetter, "Conduit or Cul-de-Sac? Information Flow in Civil-Military Operations," *Joint Force Quarterly*, 21 (Spring 1999): 104.

Bibliography

- Alberts, David S., John J. Garstka, and Frederick P. Stein. *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2nd ed. Washington, DC: C4ISR Cooperative Research Program, 1999.
- Bolton, Clinton S., Jr. "Military Operations Other Than War: The Civil Military Operations Center in Operation Support Democracy." Unpublished Research Paper, Naval War College, Newport, Rhode Island, March 1997.
- Byman, Daniel, Ian Lesser, Bruce Pirnie, Cheryl Benard, and Matthew Waxman. *Strengthening the Partnership*. Santa Monica, CA: Rand, 2000.
- Cebrowski, Arthur K. and John J. Garstka. "Network Centric Warfare: It's Origin and Future." *Proceedings*, January 1998.
<<http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>> (25 March 2002).
- Center for Naval Analyses. *Military Relations With Humanitarian Relief Organizations: Observations From Restore Hope, October 1993*. by Jonathan T. Dworken. 23 November 1994. DTIC, AD-A286 510.
- Cowan, John W. "Operation Provide Comfort: Operational Analysis for Operations Other Than War." Unpublished Research Paper, Naval War College, Newport, Rhode Island, June 1995.
- Dahl, Erik J. "Network Centric Warfare and the Death of Operational Art." Unpublished Paper, Naval War College, Newport, Rhode Island, n.d..
- Dearfield, Mark G. "The CJTF and NGOs-One Team, One Mission?" Unpublished Research Paper, Naval War College, Newport, Rhode Island, May 1998.

Department of the Army. *Peace Operations*. Field Manual 100-23.
Washington, DC: 30 December 1994.

Downing, Wayne A. "Joint Special Operations in Peace and War." *Joint Force Quarterly*, 8 (Summer 1995): 22-27.

Dworken, Jonathan T. "Restore Hope: Coordinating Relief Operations." *Joint Force Quarterly*, 8 (Summer 1995): 14-20.

Dziedzic, Michael J., and William B. Wood. "Kosovo Brief: Information Management Offers a New Opportunity for Cooperation between Civilian and Military Entities." *United States Institute of Peace*, 9 August 2000. <<http://www.usip.org/vdi/vdr/dziedzic-wood.html>> (18 April 2002).

Elmquist, Michael. "CIMIC in East Timor." *UN Office for the Coordination of Humanitarian Affairs*, 1 December 1999.
<http://reliefweb.int/ocha_ol/programs/response/mcdunet/0esttimo.html> (20 April 2002).

"Good Practices: Information Sharing in Complex Emergencies." *United States Institute of Peace*, 5 March 2002.
<<http://www.usip.org/vdi/vdr/11/html>> (18 April 2002).

Haynes, John T. "A Comparative Study of Civil-Military Operations Perspectives as They Apply to Peace Support Operations." Thesis, Naval Postgraduate School, Monterey, CA, 1996.

"Improving Humanitarian Assistance through Enhanced Communication." *United States Institute of Peace*, 5 May 2000.
<<http://www.usip.org/oc/sr/managingcomm3.html>> (18 April 2002).

"Information and Command and Control." *Aerospace America*, 38, no. 12, (December 2000): 26-27.

Jones, Jeffrey B. and Michael P. Matthews. "PSYOP and the Warfighting CINC." *Joint Force Quarterly*, 8 (Summer 1995): 28-33.

Nagl, John A. and Elizabeth O. Young. "Thinking Innovatively about U.S. Military Force." *Columbia International Affairs Online*, December 2000. <<http://www.ciaonet.org/isa/naj02>> (17 April 2002).

Oliver, George F., III. "Who Are These Guys? Non-Governmental Organizations in Humanitarian Relief Operations." Unpublished Research Paper, Naval War College, Newport, Rhode Island, May 1996.

Phillips, Charles E., T.C. Ting, and Steven A. Demurjian. "Information Sharing and Security in Dynamic Coalitions." *University of Connecticut, Computer Science and Engineering Department*, 14 December 2001.
<<http://www.cse.uconn.edu/cse/TR-Repository/CSE-TR-02-1.pdf>> (25 April 2002).

"Promoting an Information-Sharing Regime in Peace Support and Humanitarian Operations." *United States Institute of Peace*, 19 March 2002.

<http://www.usip.org/vdi/vdiplo-share/vdiplo-share.html> (18 April 2002).

Raach, George T. and Ilana Kass. "National Power and the Interagency Process," *Joint Force Quarterly*, 8 (Summer 1995): 8-13.

"ReliefWeb: Mandate and Objectives." *ReliefWeb*, 2000.

<http://www.reliefweb.int/help/mandate.html> (28 April 2002).

Ronfeldt, David and John Arquilla. "What If There Is a Revolution in Diplomatic Affairs." *United States Institute of Peace*, 25 February 1999. <http://usip.org/vdi/vdr/ronarqISA99.html> (18 April 2002).

Smith, Michael M. and Melinda Hofstetter. "Conduit or Cul-de-Sac? Information Flow in Civil-Military Operations." *Joint Force Quarterly*, 21 (Spring 1999): 100-105.

Sorenson, Robert E. "Operational Leadership Challenges in Emergency Humanitarian Assistance Operations." Unpublished Research Paper, Naval War College, Newport, Rhode Island, June 1997.

Stitt, Tony. "SHAPE Civil-Military Cooperation Conference." Mons, Belgium, 1 February 2000. http://www.usip.org/oc/vd/vdiplo-share/SHAPE_Conference.txt. (18 April 2002).

"Taking it to the Next Level: Civilian-Military Cooperation in Complex Emergencies." *United States Institute of Peace*, 31 August 2000. <http://www.usip.org/vdi/vdr/nextlevel.html> (18 April 2002).

U.S. Joint Chiefs of Staff. *Joint Doctrine for Military Operations Other Than War*. Joint Pub 3-07. Washington, DC: 16 June 1995.

U.S. Joint Chiefs of Staff. *Interagency Coordination During Joint Operations Vol I*. Joint Pub 3-08. Washington, DC: 9 Oct 1996.

U.S. Joint Chiefs of Staff. *Interagency Coordination During Joint Operations Vol II*. Joint Pub 3-08. Washington, DC: 9 Oct 1996.

U.S. Joint Chiefs of Staff. *Joint Tactics, Techniques, and Procedures for Peace Operations*. Joint Pub 3-07.3. Washington, DC: 12 February 1999.

U.S. Joint Chiefs of Staff. *Joint Vision 2020, Americas Military: Preparing for Tomorrow*. Washington, DC: GPO, June 2000.

U.S. Joint Chiefs of Staff. *Joint Doctrine for Civil-Military Operations*. Joint Pub 3-57. Washington, DC: 8 February 2001.

Wright, Stephanie L. "The NGO/Military Relationship and Complex Contingencies: A Tool Review." Unpublished Research Paper, Naval War College, Newport, Rhode Island, February 2000.

APPENDIX A

CIVIL RELIEF AGENCY WEBSITES:²¹

-InterAction-American Council for Voluntary International Action (<http://www.interaction.org>). The goal of this coalition of over 150 NGO's is assisting in humanitarian efforts worldwide. Included in this website are are listings for situation reports that provide country-specific lists of NGOs and their activities in crisis area

-ReliefWeb (www.reliefweb.org). This site is maintained by OCHA and offers up to date information collected from over 170 sources on complex emergencies and natural disasters. It offers an on-line data base of over 150,000 UN documents, maps, policy studies and analysis and

financial contribution tables. OCHA also maintains the Integrated Regional Information Networks (IRIN) (www.irinnews.org) which provides an accurate picture of 46 sub-Saharan African countries and eight in Central Asia. They provide articles, interviews and analyses that span in range from political, economic, social, and environmental to humanitarian issues.

-U.S. Agency for International Development (www.info.usaid.gov/resources/). This page lists sites of those agencies and organizations involved in humanitarian and development activities around the world.

-U.N High Commission for Refugees (www.unhcr.ch/). This website contains briefing notes on refugee crises worldwide, country updates, and special UNHCR newswire services.

-Greater Horn Information Exchange (<http://gaia.info.gov/HORN>). This site features reports, fact sheets, field guides, activities summaries and analyses of east/central African nations in crisis. Maps and sitreps are available as well as disaster histories